

REMARKS

Amendments

Claim 2 is amended above that hydrogen gas is fed from the third nozzle to the reaction zone. The claim is further amended to oxygen gas is fed from a fourth nozzle disposed concentrically outside the third nozzle. See page 6, lines 30-36 and Figure 1. Claim 3 is amended to be independent form by incorporating the recitation of amended claim 2.

Claim 5 is amended to recite that the glass is capable of transmitting at a wavelength of 157 nm (F₂) and that the glass has a transmittance at 157.6 nm of at least 74.8%. See, e.g., Example 2. New claims 6-18 are directed to further aspects of applicants' invention. See, e.g., page 5, line 24-page 6, line 19; page 7, lines 1-11; page 9, lines 10-14; page 9, lines 24-26; and the Examples.

Rejection Under 35 USC §102 or §103

Claim 5 is rejected as allegedly being anticipated or obvious in view of Yaba et al. (US 5,326,729). This rejection is respectfully traversed.

Yaba et al. disclose a quartz glass which is obtained by flame-hydrolyzing glass-forming raw material to obtain fine particles of quartz glass. These fine particles of quartz glass are deposited and grown on a substrate to obtain a porous quartz glass product. The porous quartz glass product is then heated to obtain a transparent quartz glass product which contains hydrogen, has an OH content of not more than 10 ppm, and has a halogen content of at least 400 ppm. Further, Yaba et al. disclose describe prior art glasses that have a strong absorption band at certain wavelength or exhibit strong fluorescence at certain wavelengths.

Yaba et al. do not disclose that the glass can transmit light at 157 nm. In particular, Yaba et al. do not disclose a glass which has a transmittance of 74.8% or more at 157.6 nm. Nor is there any suggestion by Yaba et al. to modify its glass so as to possess such a transmittance. In view of the above remarks, withdrawal of the rejection is respectfully requested.

Rejection Under 35 USC §103

Claims 1-4 are rejected as allegedly being obvious in view of Brown et al. (2002/0018942). This rejection is respectfully traversed.

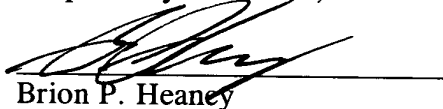
Brown et al. disclose a VUV (vacuum ultraviolet light) transmitting dry direct deposit vitrified silicon oxyfluoride lithography glass suitable use as a photomask substrate at VUV wavelengths below 193 nm, particularly around the 157 nm region. Brown et al. also disclose a process of making such a glass wherein a hydrogen-free fuel carbon monoxide combustion burner is supplied with carbon monoxide and oxygen to form a carbon monoxide combustion reaction flame. Near the flame is provided a direct glass deposition surface. An Si-glass precursor feedstock and a F-glass precursor feedstock are then supplied to the carbon monoxide combustion burner whereby they are reacted in the flame to form silicon oxyfluoride glass soot. The soot is directed at the glass deposition surface and concurrently directly deposited and vitrified into a dry direct deposit vitrified silicon oxyfluoride glass body.

Brown et al. does not disclose or suggest an indirect process in which silica particles are deposited onto a substrate to form a porous silica matrix, and then subsequently fusing the porous silica matrix. Thus, it is respectfully submitted that Brown et al. fails to render obvious applicants' claimed invention.

In any event, it is noted that the Brown et al. application claims priority to three U.S. provisional applications, the earliest of which was filed April 28, 2000. The instant application claims priority of Japanese patent application No. 11-371,458, filed December 27, 1999. For purposes of perfecting applicants' claim for priority, attached hereto is a certified English translation of Japanese patent application No. 11-371,458.

In view of the above remarks, withdrawal of the rejection is respectfully requested.

Respectfully submitted,



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